

**TRANSLATION**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>0000055191</b>	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. <b>PCT/EP2004/014327</b>	International filing date ( <i>day/month/year</i> ) <b>16.12.2004</b>	Priority date ( <i>day/month/year</i> ) <b>18.12.2003</b>	
International Patent Classification (IPC) or national classification and IPC <b>C08G18/08, C08G18/66, C09D175/04, C14C11/00, C09D11/00</b>			
Applicant <b>BASF AKTIENGESELLSCHAFT</b>			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <b>5</b> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/EP2004/014327

## Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 

This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
 
  - international search (Rule 12.3 and 23.1(b))
  - publication of the international application (Rule 12.4)
  - international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
 

the international application as originally filed/furnished  
 the description:  
 pages 1-38 \_\_\_\_\_ as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 the claims:  
 nos. 1-18 \_\_\_\_\_ as originally filed/furnished  
 nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 the drawings:  
 sheets \_\_\_\_\_ as originally filed/furnished  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3.  The amendments have resulted in the cancellation of:
 

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. Statement

Novelty (N)	Claims	1–18	YES
	Claims	_____	NO
Inventive step (IS)	Claims	1–18	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	1–18	YES
	Claims	_____	NO

## 2. Citations and explanations (Rule 70.7)

**This report makes reference to the following documents:**

D1: DE 196 36 382 A1

1. Novelty (PCT Article 33(2)) / Inventive step (PCT Article 33(3))

The subject matter of claims **1–18** is novel over the prior art as cited in the international search report.

None of the documents cited in the search report discloses a method for producing aqueous primary dispersions from polymer-coated pigments, wherein a) at least one polyisocyanate having b) a compound with isocyanate-reactive groups, selected from polyetherols, polyesterols, polyvalent alcohols, polycarbonate diols, polyhydroxyolefins, polyhydroxyurethanes, polyisobutene diols, polysiloxanes and polyester diols based on lactone is mixed with pigment and water and reacted; or the corresponding aqueous primary dispersions, their use for finishing leather, in textile printing, for producing inks, the corresponding leather, textile,

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printing paste, inkjet inks, fibrous substrates, coated pigments, or the corresponding methods for their production.

The subject matter of present claims **1-18** also involves an inventive step since neither D1 alone, which is regarded as the closest prior art, nor in conjunction with another document cited in the search report, contains anything that suggests the claimed method, for the following reasons:

D1 discloses pigment preparations and a method for their production for inkjet printing, the preparations being produced from a water-dispersible polyurethane based on polyether, TDI and N,N-diethanolamine, and carbon black in water (D1: examples 1 and 4).

The production method claimed in the present claims differs from the method for producing the pigment preparation known from D1 by the formation of the polyurethane in the presence of the pigment to be dispersed.

The technical problem is that of providing aqueous stable pigment dispersions that are based on polyurethane and produced using an alternative, simplified method wherein the pigments are easy to apply and have good fastness properties.

This problem is solved by the above-mentioned method; in example 4, a mini-emulsion is produced by mixing polyester diol, butane diol, hexadecane, an additive and IPDI in water and exposing the mixture

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to ultrasonic waves while cooling, and then the primary dispersion is produced by mixing the pre-dispersed pigment and catalytically reacting said mixture. The inkjet ink formulation produces printing results with good values in friction resistance tests.

**2. Industrial applicability (PCT Article 33(4))**

The application relates to aqueous dispersions of pigments coated in polyurethane and is therefore industrially applicable.